

EARTH & ENVIRONMENTAL SCIENCES



Had a Wonderful Time at the UK Geology Field Camp Reunion



Dear UK Geology Alumni and Friends,

The Department of Earth and Environmental Sciences continues to make advances and impacts in teaching, research and service at UK and around the country. With the help of dozens of generous alumni and several corporations through

matching programs we successfully completed the Geofund fund-raising initiative (see p. 12). The Geofund will give the Department the flexibility to direct support to students for undergraduate research and travel, recruitment of graduate students, and continued improvement of our instructional and research space in Slone Bldg. Our students continue to garner awards for their scholarship (e.g., Ashley Bandy wrote and received a U.S. Dept. of Agriculture fellowship for her dissertation research on microbial pathogens in groundwater; other student awards are listed on p. 7-8). Our students continue to land jobs and internships in the environmental consulting and energy resource exploration field upon completion of their degree requirements.

Our faculty continue to land research grants and garner awards (see p. 9 for Faculty Awards). After dropping to 6.5 faculty in 2011, we continue (with the help of UK, the College of Arts & Sciences, and our industry patrons) to grow back the faculty. We added a tenth faculty member this past fall: Prof. Mike McGlue, the new Pioneer Natural Resources Professor in Stratigraphy (see the feature story about Mike on p. 10). We are thrilled to have the support and commitment of Pioneer Natural Resources and the

many alumni who now work at Pioneer to underwrite the establishment of the Pioneer Professor position and the UK Petroleum Geosystems initiative, spearheaded by Prof. McGlue and Prof. Derek Sawyer. And, as of this writing we are in the throes of another faculty search to find a professor with research and teaching interests in stable isotope geochemistry and paleoclimatology. This faculty hire will take us to eleven faculty, as many as we had since I arrived at UK in 1991.

We continue to renovate Slone Building to improve the learning and working environment for our students, faculty and staff – if you haven't been to campus lately you probably wouldn't recognize first floor of Slone. In terms of personnel, Pam Stephens, our long time budget officer, and George White, our staff assistant, were promoted to different positions in the College of Arts and Sciences. We now have a "Department Manager", Ms. Adrienne Gilley (see p. 3).

Our 2013 Distinguished Alumnus is Dr. Niel Plummer, formerly of the U.S.G.S. (see p. 4). The first ever UK Geology field camp reunion in Crested Butte was a smashing success. For those who couldn't make it, we plan to hold one again in summer of 2017.

As always, we appreciate hearing from alumni. Please don't hesitate to contact us when you are in Lexington. Our web page (ees.as.uky.edu) usually lists the most recent events and activities.

Best wishes for 2014,
Dave Moecher, Professor and Chair

STAY CONNECTED...

You can keep track of department events, the Rast-Holbrook seminar schedule, our contact information, and alumni events via the department web page:

ees.as.uky.edu

AND KEEP IN TOUCH

Please let us know if your address or contact information change. Send a note to, email, or call Adrienne Gilley, the department manager:

Adrienne Gilley



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adrienne.gilley@uky.edu
859-257-1952



Views from the UK Geology Field Camp Reunion. Lower right photo, L-R: Mike Bourque, Cindi Sullivan, Steve Sullivan

- 2** LETTER FROM THE CHAIR
- 3** TABLE OF CONTENTS
- 4** DISTINGUISHED ALUMNUS
- 5** DEGREES AND AWARDS
- 6** STUDENT PRESENTATIONS & PUBLICATIONS
- 7** STUDENT AWARDS AND RECOGNITION
- 8** STUDENT AWARDS AND RECOGNITION
- 9** FACULTY AWARDS AND RECOGNITION
- 10** NEW FACULTY/ALUMNI BOARD NEWS
- 11** SEMINAR SPEAKERS 2013
- 12** DONATIONS

Regular Faculty

Sean Bemis, Assist. Prof.
Frank Ettensohn, Prof.
Alan Fryar, Assoc. Prof.
Michael McGlue, Assist. Prof.
David Moecher, Prof.
Dhananjay Ravat, Prof.
Audrey Sawyer, Assist. Prof.
Derek Sawyer, Assist. Prof.
Kevin Yeager, Assoc. Prof.
Ed Woolery, Assoc. Prof.

Staff

Adrienne Gilley, Dept. Manager
Pete Idstein, Academic Lab Coordinator
Kim Schindler, Lab Manager
Pam Stephens, Business Manager
George White, Staff Assistant

Lecturers

Dr. Marta Clepper
Dr. Rebecca Freeman
Dr. Kent Ratajeski

Emeritus Faculty

William Blackburn
Bruce Moore
Kieran O'Hara
Sue Rimmer
Lyle Sendlein
Ron Street
William Thomas
John Thrailkill

Adjunct Faculty

Jim Cobb, KGS
Jim Hower, CAER
Cortland Eble, KGS
Rick Bowersox, KGS
Marty Parris, KGS
Tom Robl, CAER
Jerry Weisenfluh, KGS
Steve Greb, KGS
Zhenming Wang, KGS
Junfeng Zhu, KGS
Chris Groves, WKU

2013 Distinguished Geology Alumnus Award to Dr. L. Niel Plummer UK Department of Earth and Environmental Sciences

Citation Read by Mr. Wendell Overcash, UK Geology Alumni Board Representative



Dr. L. Niel Plummer (left) and Wendell Overcash

We are delighted today to honor Dr. L. Niel Plummer as the 2013 UK Geology Distinguished Alumnus. Niel is a native of Lexington. His father (also named L. Niel Plummer) was Director of the UK School of Journalism from 1940 to 1965, as well as state and city editor of the Lexington Herald. He was inducted into the Kentucky Journalism Hall of Fame in 1982 (along with Cawood Ledford).

Our honoree received his BS in 1967 and his MS in 1969 from UK. He did his MS thesis on barite veins in central Kentucky with Irving Fisher. He went on to Northwestern, where he received his PhD in 1972 in aqueous geochemistry with Fred Mackenzie. From 1972 to 1974, Niel was Assistant Professor of Geological Sciences at the State University of New York at Buffalo. In 1974, he joined the National Research Program of the U.S. Geological Survey's Water-Resources Division in Reston, Virginia. He became Senior Research Scientist in 1992 and retired in 2012. He remains active as Scientist Emeritus. Niel and his wife, Phyllis, have four children and nine grandchildren. Coincidentally, their daughter-in-law, Deborah Hersman, chair of the National Transportation Safety Board, will receive an honorary doctorate from UK at the December commencement.

Niel is internationally renowned in aqueous geochemistry and hydrogeology. One of his areas of expertise is the kinetics and

thermodynamics of carbonate minerals in aqueous solutions, which is certainly relevant to central Kentucky. The first paper from his dissertation, on predicting mineral solubility from rate data, has been cited nearly 200 times in the refereed literature. His 1982 paper with Ed Busenberg on solubility of calcite, aragonite, and vaterite as a function of temperature has been cited more than 900 times. Niel is perhaps best known to hydrogeologists as a co-creator, with Dave Parkhurst and others, of the geochemical modeling programs PHREEQE, PHRQPITZ, and NETPATH, which have been widely used for determining mineral-solution equilibria and mass transfer in natural waters. The USGS reports describing these codes have together been cited 1800 times! With Ed Busenberg, Niel pioneered the analysis of dissolved chlorofluorocarbons to date modern groundwaters. Their seminal 1992 paper in Water Resources Research has been cited more than 400 times. Finally, Niel has integrated fieldwork and modeling to describe chemical evolution and residence time of groundwater in major regional aquifers, the topic of his seminar today. His 1990 paper with Busby, Lee, and Hanshaw in Water Resources Research on the Madison aquifer in the northern Plains states has been cited almost 300 times. On the basis of these last two papers, Niel received the 1993 O.E. Meinzer Award from the Hydrogeology Division of the Geological Society of America.

Niel's contributions have not been limited to a handful of well-referenced publications, nor to work in the United States alone. He has authored or co-authored more than 175 papers, chapters, and USGS reports. His leadership and mentoring have been recognized with the U.S. Department of Interior's Meritorious Service and Distinguished Service Awards and with the USGS Citation for Distinguished Contributions to Employee Development. Moreover, he has been a consultant to the International Atomic Energy Agency, and he helped assess water resources of the Kabul basin in Afghanistan and the Cape Verde islands (West Africa). Niel Plummer's work has had a profound impact on the field of chemical hydrogeology. We are proud to claim him as one of our own.

2013 or not listed in 2012 Newsletter

UNDERGRADUATE AWARDS

Bachelor of Sciences

Joshua DeVore (Cum Laude, Dept. Honors)
Julie Floyd (Cum Laude, Dept. Honors)
Andrew Holcomb
Zachary Moore
Anna Roa
Tom Scott
Patrick Taylor
Fei Wang

Bachelor of Arts

Arielle Evans
Kevin Lyne

GRADUATE DEGREES

Master of Science (With Thesis Advisor)

Ralph Bandy "Geology of the Eau Claire Formation and Conasauga Group in part of Kentucky, and Analysis of their suitability as caprocks for deeper CO₂ sequestration" (Steve Greb and Frank Ettensohn)

Rachel Hatch "Distribution and impacts of petroleum hydrocarbons in Louisiana tidal salt marsh sediments following the Deepwater Horizon oil spill" (Kevin Yeager)

Susan Leib "Thermobarometry of metamorphosed pseudotachylyte and determination of rupture depth during Devonian Caledonian extension, north Norway" (Dave Moecher)

Ryan Quinn "The evolution of Grenville basement in the eastern Great Smoky Mountains: Constraints from U-Pb zircon geochronology, whole rock Sm-Nd, and feldspar Pb geochemistry" (Dave Moecher, 12-2012)

Gabriel RiCharde "Geothermobarometric evolution of the Liverpool Land Eclogites, East Greenland" (Dave Moecher)

Anne Schumacher "Modeling of CO₂-water-rock interactions in Mississippian sandstone reservoirs of Kentucky" (Marty Parris and Alan Fryar)

Carrington Wright "SH-wave refraction and reflection investigation of Quaternary geology - Central United States Seismic Observatory" (Ed Woolery, 12-2012)

DOCTOR OF PHILOSOPHY

Ganesh Tripathi "Spatio-temporal variability in groundwater discharge and contaminant fluxes along a channelized stream in western Kentucky" (Alan Fryar)

Ali Al-Mayahi "Shear-wave Imaging and birefringence in a complex near-surface geological environments" (Ed Woolery)

2013 STUDENT AWARDS

UNDERGRADUATE AWARDS

PIRTLE OUTSTANDING SENIOR SCHOLARSHIP

William Pierskalla

GLENN RICE MEMORIAL TUITION SCHOLARSHIP

Jordan Bratcher
Caleb Essex
Joshua DeVore

Jacob Lee
Brittany Shelton
Patrick Taylor

SIGMA GAMMA EPSILON TARR AWARD

Courtney Slone

HUDNALL FIELD CAMP SCHOLARSHIP

Joshua DeVore
Caleb Essex
Jerrad Grider
Andrew Holcomb
Jacob Lee
Chase Lockhart
Joseph Lucas
Joseph Moore
Zachary Moore
Courtney Slone

Anna Muncy
William Pierskalla
Michael Priddy
Clay Seckinger
Brittany Shelton
Patrick Taylor
Alex Vukmer
Fei Wang
Patrick Whalen
Jennifer Whitney

GRADUATE AWARDS

PIRTLE FELLOWSHIP

Melissa Ditty
Ashley Bandy
Cory Black Eagle
Evan Kelly

Rachel Hatch
Alice Orton
Sara Federschmidt

PIRTLE SCHOLARSHIP

Sagarika Banerjee
Corey Burkett
Cosmas Kujjo
Lucas Rohrer

FERM FUND RESERACH AWARD

Lucas Rohrer
Cory Black Eagle
Sagarika Banerjee

BROWN-MCFARLAN FUND TRAVEL AWARD

Rachel Hatch
Daniel Spaulding
Stephen Prosser
Zac Moore
Laurel Walker
Phil Wolfe
Cory Black Eagle
Trent Garrison

Cosmas Kujjo
Nick Levitt
Josh Devore-UG
Timothy Patrick Taylor
Catherine Skees
Michelle Johnson

STUDENT PRESENTATIONS AND PUBLICATIONS

Clepper, M., Bandy, Ashley. 2013. Geology for Teachers: Laboratory Exercises. Kendall Hunt Publishing, p. 147.

Brunner, C.A., K.M. Yeager, Rachel Hatch, S. Simpson, J. Keim, K.B. Briggs, P. Louchouart, 2013. Effects of oil from the Macondo well blowout on marsh foraminifera of Mississippi and Louisiana, USA. Environmental Science and Technology 47: 9,115-9,123.

Hatch, Rachel, K.M. Yeager, C.A. Brunner, T.L. Wade, K.B. Briggs, K.J. Schindler, 2013. Salt marsh sediment mixing following petroleum hydrocarbon exposure from the Deepwater Horizon oil spill. American Geophysical Union National Meeting, Dec. 9-13, San Francisco, CA.

Kelly, Evan A., Moecher, D.P., 2013. Provenance of the Walden Creek Group, eastern Tennessee; Geological Society of American Annual Meeting, v. 45, no. 7, p. 739.

Prosser, Stephen A., K.M. Yeager, K.J. Schindler, 2013. Fluvial response to growth faulting in the Pearl River Delta, Louisiana. American Association of Petroleum

Geologists Rocky Mountain Rendezvous, Sept. 27-30, Laramie, WY.

Spaulding, Daniel F., Moecher, D.P., 2013, Bedrock geologic map of the west half of the 7.5" Cove Creek Gap quadrangle, western North Carolina: Nature of the Snowbird-Great Smoky Group contact. Geological Society of American Annual Meeting, v. 45, no. 7, p. 378.

Wolfe, Philip C., K.M. Yeager, R.A. Feagin, C.A. Brunner, K.J. Schindler, 2013. Characterizing sedimentary responses to coastal faulting using high-resolution geochronology and sedimentology: East Matagorda Peninsula, Texas. American Geophysical Union National Meeting, Dec. 9-13, San Francisco, Ca.

Wolfe, Philip C., K.M. Yeager, R.A. Feagin, C.A. Brunner, K.J. Schindler, 2013. Holocene sedimentary responses to growth faulting in a back-barrier setting: East Matagorda Peninsula, Texas, USA. American Association of Petroleum Geologists - Society of Exploration Geophysicists Student Expo, Sept. 16-17, Houston, TX.

Ashley Bandy

PhD Candidate

Awarded a University of Kentucky Graduate School Graduate Student Incentive Program award, Fall 2013-2014.

Awarded an AFRI NIFA Fellowships Grant Program Predoctoral Fellowship (Agriculture and Food Research Initiative, National Institute of Food and Agriculture), Fall 2013.

Awarded Outstanding Teaching Assistant, College of Arts and Sciences, University of Kentucky, 2013.

Cory BlackEagle

PhD Candidate

Invited to attend and received full support to attend the NSF EarthCube/USGS Workshop on Envisioning a Digital Crust, Fort Collins, CO, January 2013.

Awarded a 2013-2014 Kentucky Environmental Protection Scholarship.

Proposed and co-convended Geological Society of America Pardee Symposium, "125 Years of Exploration and Geoscience with GSA and the National Geographic Society: Celebrating the Rich History of Geoscientist Explorers Who Have Broadened Our Horizons and Knowledge of Our World"

Convended Karst 2.0 a technical session on karst at GSA 2013, Denver, CO, October 2013.

Served on the GSA Joint Technical Planning Committee as the karst discipline representative.

Clayton Brengman

MS Candidate

Awarded a Geological Society of America Graduate Student Grant in the amount of \$2,150.

Interned with the EarthScope project to extend seismic USArray stations throughout the midwest, Summer 2013.

Melissa Ditty

MS Candidate

Awarded an EES Outstanding Teaching Assistant Award, April 2013, for outstanding work as a teaching assistant in 2012-2013.

Trent Garrison

PhD Candidate

Advisor: Jim Hower

Awarded The Society for Organic Petrology Spackman Award.

Awarded a Kentucky Society of Natural History research grant.

Awarded the Geological Society of America Coal Geology Division Medlin Award, 2013. Trent is the recipient of the GSA Coal Division's Antoinette Lierman Medlin Field Award for his work to examine water quality impacts in the area of coal fires. The amount of the award is \$1,000.*

Appointed President of the Kentucky Section of the American Institute of Professional Geologists, 2013.

Rachel Hatch

MS Candidate

Awarded a Geological Society of America Graduate Student Grant for "Effects of petroleum hydrocarbon exposure following the Deepwater Horizon spill on tidal marsh sedimentary and biological processes: An investigation using radioisotopes and benthic foraminifera" in the amount of \$2,000.

Awarded a Gulf Coast Association of Geological Societies Graduate Student Grant for "Effects on tidal marsh sedimentary and biological processes due to petroleum hydrocarbon exposure following the Deepwater Horizon spill" in the amount of \$500.

Awarded an American Geophysical Union Graduate Student Travel Grant in the amount of \$500 to support attendance and participation in the AGU Fall Meeting, December 2013, San Francisco, CA.

Michelle Johnston

MS Candidate

Awarded the Geological Society of America Coal Geology Division Medlin Award, 2013. Michelle is the recipient of the GSA Coal Division's Antoinette Lierman Medlin Lab/Analytical Research Award. The selection is for her work to characterize the coal macerals and ultimately understanding of peat accumulation and depositional environment for the Leatherwood coal. The amount of the award is \$1,500.*

Interned with Nikki Wagner at University of Witwatersrand, Johannesburg, Republic of South Africa.

STUDENT AWARDS AND RECOGNITIONS

Cosmas Kujjo

PhD Candidate

Appointed as Director General of the Geological Survey of South Sudan, July 2013.

Cole Musial

MS Candidate

Advisor: Audrey Sawyer

Awarded a Woods and Waters Student Award in the amount of \$700.

Alice O'Bryan

MS Candidate

Advisor: Frank Ettensohn

Interned at Conoco-Phillips, Houston, TX, Summer 2013.

Stephen Prosser

MS Candidate

Advisor: Kevin Yeager

Awarded a Geological Society of America Graduate Student Grant for "Fluvial response to active growth faulting in the Pearl River delta, Louisiana" in the amount of \$1,828.

Awarded a Gulf Coast Association of Geological Societies Graduate Student Grant for "Fluvial response to active growth faulting in the Pearl River delta, Louisiana" in the amount of \$1,500.

Alice Orton

MS Candidate

Advisor: Ed Woolery

Awarded a Geological Society of America Graduate Student Grant for "Science and Public Policy of Earthquake Hazard Mitigation in the New Madrid Seismic Zone" in the amount of \$2,125 to support travel to China for corroborating research, April 2013.

Awarded Kentucky Geological Survey and China Institutes of Sciences reciprocal student funding to support travel and research in China, Summer 2013. Awarded a University of Kentucky Graduate School Daniel R. Reedy Quality Achievement Award in the amount of \$3,000, 2013-2014.

Alumni and students listening attentively to stories by Rod Metcalf at the UK Geology Field Camp Reunion.

Lucas Rohrer

MS Candidate

Advisor: Dave Moecher

Awarded a Geological Society of America Student Research Grant for his thesis research testing models for the tectonic evolution of the Appalachian Orogen in New England.

Laurel Walker

MS Candidate

Advisor: Sean Bemis

Awarded a grant (\$1250) from the Alaska Geological Society for her research on evolution of Quaternary fluvial terraces in the Nenana River Valley, Alaska Range.

Phil Wolfe

MS Candidate

Advisor: Kevin Yeager

Awarded a Gulf Coast Association of Geological Societies Graduate Student Grant for "Holocene sedimentary responses to growth faulting in a salt marsh setting: East Matagorda Peninsula, Texas" in the amount of \$500.

Awarded an American Association of Petroleum Geologists Travel Grant in the amount of \$500 to support attendance and participation in the AAPG-SEG Student Expo Meeting, September 2013, Houston, TX.

Olivia Woodruff

MS Candidate

Advisor: Kevin Yeager

Awarded a Sigma Xi Grant in Aid of Research for "Compound specific stable isotope source characterization of polycyclic aromatic hydrocarbons in recent Gulf of Mexico sediments" in the amount of \$600.



FACULTY AWARDS AND RECOGNITIONS

FRANK ETTENSOHN:

ARTS AND SCIENCES

DISTINGUISHED PROFESSOR

Professor Frank Ettensohn was named the 2013 College of Arts and Sciences Distinguished Professor. This award is bestowed upon a faculty member in the College of Arts and Sciences that has a long record of outstanding research, unusually effective teaching, and distinguished professional service at the University. Prof. Ettensohn has been a faculty member at UK since 1976, and is well known to two generations of students at UK for teaching and research in sedimentary geology. The last time a faculty member in Geology at UK received the award was 1953, when Prof. Arthur C. McFarlan was named Distinguished Professor. We are pleased and honored to see the award finally bestowed upon a geology faculty member.

FRANK ETTENSOHN: U.S. DEPARTMENT OF STATE JEFFERSON SCIENCE FELLOWSHIP

This has been a good year for Prof. Frank Ettensohn. In addition to his Distinguished Professor Award, Prof. Ettensohn was awarded a prestigious Jefferson Science Fellowship with the U.S. State Department. Frank became an unofficial "energy ambassador" in the Bureau of Energy Resources. In this role, he has a diplomatic passport and visa to travel around the world - including, China, Pakistan, Lithuania, Morocco, and Botswana. The U.S. government has assumed the mission of encouraging the world to switch to natural gas and various unconventional energy resources. The real challenge for this initiative is the "Asian Coal Challenge" and how to wean large countries like China and India from coal. Part of Frank's role is to determine what kind of unconventional gas resources a country has, and then help that country understand what they have and how to develop it. He has become the bureau's expert on the geology of unconventional gas, especially shale gas, carrying out countrywide assessments on the viability of unconventional gas,

DAVE MOECHER:

UK OUTSTANDING ADVISOR AWARD

Professor Dave Moecher received the 2013 Ken Freeman Outstanding Faculty Advising Award, which is awarded to a faculty member at UK with a track record of effective and caring undergraduate advising. This award also qualified Prof. Moecher for inclusion in the competition for the National Academic Advising Association Region III Outstanding Advisor Award, which he also received. Prof. Moecher was Director of Undergraduate Studies from 1998 until 2012, and still enjoys advising undergraduate majors while also juggling the responsibilities of being Chair. He believes his legacy will be more about the students he has influenced as a teacher and advisor than he will as a scientist.

which includes tight gas, CBM, and shale gas. He visits other countries to explain the technical, environmental, regulatory and social aspects of the exploration, development and production of shale gas, especially fracking. Interestingly, some of the countries that have the largest conventional gas resources around the world have been disseminating incorrect information about the negative aspects of shale gas to discourage its development. As the Jefferson Science Fellow, his role is to explain this technology to anyone who will listen, using science-based information to show that it can all be done safely and sustainably. Frank has talked to international delegations, bureaus in the State Department, the Foreign Service Institute, and private groups about shale-gas technology. Upon his return to the Department in Fall 2014 I am looking forward to sharing what I have learned with the Sedimentary Geology and Paleontology working group in EES at UK.

NEW FACULTY

MICHAEL MCGLUE



Dr. Michael McGlue joined the faculty in August as the Pioneer Professor. His research focuses on stratigraphy, basin analysis, petroleum geology, paleoenvironments, and paleolimnology. Mike integrates a variety of techniques in his research, including sequence stratigraphy, seismic reflection surveying, sedimentary geochemistry, physical sedimentology, mineralogy, and petrography. He earned his Ph.D. in geosciences from the University of Arizona in 2011. Mike comes to us after completing a Mendenhall postdoctoral fellowship at the USGS Central Energy Resources Science Center in Denver, Colorado. At the USGS, Mike was studying unconventional petroleum resources hosted within Triassic and Eocene shales in the United States. At UK, his research program centers on integrated fine-grained sedimentary systems analysis in both modern and ancient settings. He is particularly interested in new applications of continental scientific drilling. Field sites include the East African Rift Valley, the Midland Basin (in collaboration with Pioneer Natural Resources), the Andean foreland of Brazil and Argentina, and western Colorado. Mike and fellow new professor Derek Sawyer are spearheading our new Petroleum Geosystems initiative, which aims to prepare UK students for careers in natural resource exploration and bring new oil/gas industry partners to campus for recruiting. Mike will teach EES 555 Stratigraphy, as well as new courses in Basin Analysis, Muds and Mudrocks, and Paleolimnology. His lab and office space will be in Slone 106.

ALUMNI BOARD NEWS

GREETINGS FROM THE ALUMNI BOARD!

Thanks to a host of folks (see list of donors on p. 12), 2013 was a successful year for us. A few highlights - one of our main goals is to enhance the value of a UK geology education for all students and to do so, we focus a lot of effort on fundraising. With great pleasure and an extreme amount of gratitude to all who helped, we can announce that we met the goal for the GeoFund. One emphasis for use of the GeoFund is undergraduate research. A big time highlight of 2013 was the first ever field camp reunion at Cement Creek Ranch in Crested Butte over the July 4th weekend - it was a blast! There were about 75 folks attending from current students, faculty, staff from A&S, and alumni from the '60s to the present. It was a great event and many thanks to Dave Moecher and those who helped put everything together. We can't wait for the next one. Just for the record, most of the stories told (especially by Rodney Metcalf and Wendell Overcash) were complete fabrications. The Department hosted a reception at GSA in Charlotte in Fall 2012 and traveled to Dallas in an ice and snow storm to meet with alumni on the day of the UK-Baylor basketball game played at AT&T Cowboys Stadium. Pioneer Natural Resources and alumni employed there made major donations to the department in support of an initiative to enhance education and training of graduate students for careers in the energy field. The Distinguished Alumni Award recipient was Dr. Niel Plummer, an accomplished hydrogeologist with a distinguished career at the U.S. Geological Survey. From a personal perspective, maybe the best thing I did was attend the Department's spring awards luncheon. Numerous student scholarship and fellowship awards were made. It reinforces the reason we need to continue doing what we do - giving to UK Geology and supporting students. Thanks to all and please stay involved. Have a great 2014!

Steve Sullivan, Chair
UK Geology Alumni Advisory Board

RAST-HOLBROOK SEMINAR SPEAKERS 2013

SPRING 2013

- Rebecca Freeman, University of Kentucky "The Curse of Rafinesquina: Negative Taphonomic Feedback Exerted by Strophomenid Shells on Storm-Buried Lingulids in the Cincinnati (Katian, Ordovician) Series of Ohio"
- Ben Dattilo, Indiana University Purdue University Fort Wayne "Revisiting Rafinesquina: The Surprising Life Strategies of a Common Fossil Brachiopod"
- Ron Wilhelm, University of Kentucky "Using Carbon-Enhanced Stars to Explore s-process Nucleosynthesis"
- Colleen Milbury, Purdue University "Martian Geology & Magnetic Dynamo"
- Bob Ritzi, Wright State University "Thoughts about representing stratal architecture within models for subsurface fluid flow and transport"
- Katie Heckman, EQT Corporation "Gas in the Huron Shale"
- Kate Bulinski, University of Cincinnati "Fossil biodiversity of the type Cincinnati: Investigations of abundance, rarity and ecospace utilization"
- Magali Billen, University of California Davis "GeoPRISMS Distinguished Lecturer: From the Outer rise to the Transition Zone: Observations and Models of Plate and Mantle Deformation During Subduction"
- Madeline Schreiber, Virginia Tech "Arsenic in Groundwater: An Ounce of Prevention is Worth a Pound of Cure"
- Richard Spruill, East Carolina University "ASBOG and the Professional Exam"

FALL 2013

- Lhoussaine Bouchaou, Duke University "Contribution of isotopic tracers for water resources management in a semi-arid area: the case of some aquifers in Morocco"
- Craig Moyer, Western Washington University "The Okinawa Trough Subsurface Biosphere: Microbial Communities in Hydrothermal Systems"
- Sandra Passchier, Montclair State University "Reconstructing the Footprint of an Ice Sheet on the Antarctic Continental Margin"
- Niel Plummer, USGS "Old groundwater in parts of the Upper Patapsco aquifer, Atlantic Coastal Plain, Maryland, USA: Evidence from radiocarbon, chlorine-36 and helium-4"
- Patricia Manley, Middlebury University "Glacial Lake Discharges and Abrupt Climate Change: Lake Champlain"
- Ellen Currano, Miami University "Ancient bug bites on ancient plants record forest ecosystem response to local and global environmental perturbations"
- Matthew Zimmerer, New Mexico Bureau of Geology and Mineral Resources "Caldera magmatism from the inside out"
- Doug Edmonds, Indiana University "A Sedimentological Perspective on River Delta Restoration"
- Chuanhui Gu, Appalachian State University "A numerical test of the 'lung model'- a new view of stream hyporheic processes"
- Jeff Walker, Vassar College "Clay Mineralogy of a Deep Geothermal Exploration Well, Snake River Plain, Idaho"

DONATIONS 2013

The following individuals and companies made donations to EES endowment funds during calendar year 2013. We greatly appreciate the generosity and support of our alumni.

GeoFund

Elizabeth Blackburn Almy
Kate Seago
Mark E. Gormley
Mr. and Mrs. Phillip Manger
Mei Zhang
David and Laura Vance
Jay Henthorne, Jr.
Jason Heck
Tom Spalding
Gary McCreary
Jill and Matt Gregory
Natasha and Tom Becker
Dave Scott
Roger Soderberg
Dr. Alan E. Fryar
Ken Smith
Devi Udgate
Jim Pear
Mark Snider
Fred Norton, Jr.
Bob Lieber
Zhenming Wang
Steve Sullivan

Development Fund

Mike Bourque
Doug Gouzie
Wendell Overcash
Diane and William Spies
Steve and Cindi Sullivan
Wayne Frankie
Lawrence Spangler
John Johnson
David Metzner
Jamal Assad
Patricia Anderson

Geology Support Fund

William Spies
Continental Natural Resources

Brown-McFarlan Fund

Mrs. Jo Allan Napier
Mary Witt Wilson (in memory of David Wilson)
James Rankin
Edward Crisp
Jim Currens
J. Monroe Hall

Haynes Field Trip Fund

Drew Andrews
Tom and Natasha Becker
Kit Clemons

Rast-Holbrook Seminar Fund

John Kuehne
Ken Neavel
James Thornton, Jr.

Glenn Rice Scholarship Fund

Tom Deen
David Jackson
Special Donations
Pioneer Natural Resources Professor
Research Support
IHS Global, Inc. (Kingdom Suite software)

Corporate Donors

Chevron Humankind
Continental Resources
ExxonMobil Foundation
Newfield Exploration Company
Noble Energy
Pioneer Natural Resources

University of Kentucky 1966 Field Camp Photo taken at Black Canyon of the Gunnison



This photo of the 1966 Field Camp class and instructors was provided by alumnus Ken Smith. The photo was taken at Black Canyon of the Gunnison. Ken and 2013 Distinguished Alumnus Dr. Niel Plummer (see p. 4 for Niel's Distinguished Alumnus citation) put their heads together to identify the other students and Professor Bud Fisher's family members.

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SUPPORT OPPORTUNITIES

Your support of the UK Department of Earth & Environmental Sciences helps provide opportunities for our outstanding undergraduate and graduate students. All contributions to the department are tax deductible.

RAST-HOLBROOK FUND

Supports the department seminar program, an opportunity for students to interact with researchers outside the department

GEOFUND

Supports general departmental needs including undergraduate and graduate scholarships

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